New D&D Focus Area ASTD Projects in FY2002

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Presentation Outline

- ASTD Overview
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  - History
- ASTD Selection
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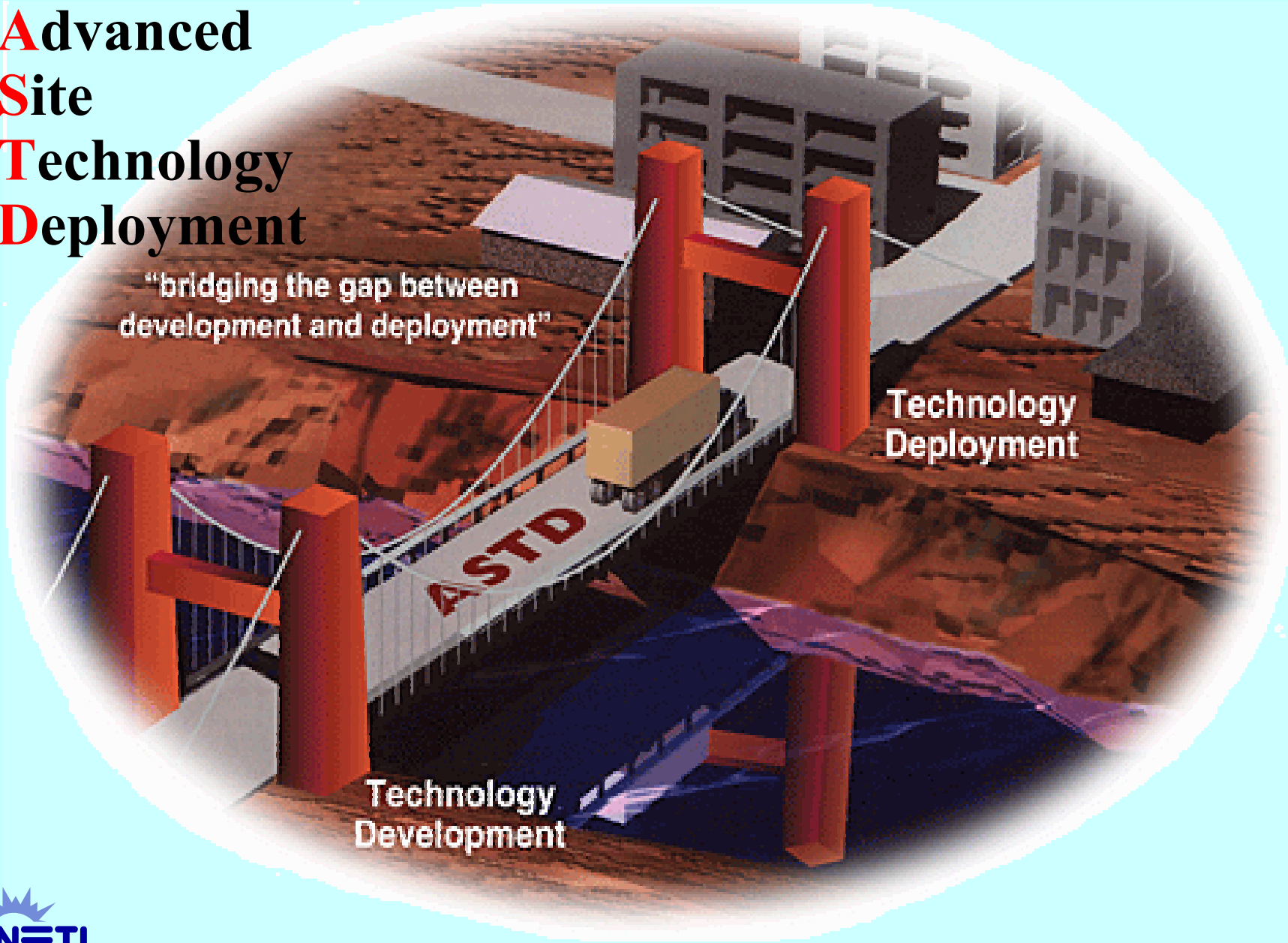
  - INEEL
  - Hanford
  - Mound
  - Rocky Flats
- Conclusion

Advanced Site Technology Deployment



ASTD History

- **Created by Congress in FY1998**
- **3 Calls for Proposals thus far**
- **Leveraged funding:**
  - $270 M in total funding for ASTD's through FY2000
  - $98 M from OST, balance from Sites' funds
- **60 total ASTD's funded prior to FY2002**
  - 22 total sites
  - 27 ASTD's are DDFA
  - 10 sites have had DDFA sponsored ASTD's
- **Average ROI 16:1**
- **Over $1 B in cost avoidance**

ASTD Selection Process

Call For Proposals

- Review team reviews, ranks & recommends projects

Phase I - Review of Past Performance of ASTD Projects

- Current & past ASTD Projects at site reviewed to determine if they'd been executed as proposed

Phase II - Screening & Relevance Review

- Submission of letters from a site representative with budget authority & from the FA
- commitment letters from the deployment site & at least 1 subsequent location, each identifying facilities & contact info for project manager
- joint funding/ in-kind contributions = at least 1/2 of project costs from proposing organization(s)
- completed cost/ benefit analysis comparing new technology to the current baseline
- After passing Phase II, proposals were posted on ASTD website & reviewers were given password to download & review

ASTD Selection Criteria

Phase III - Selection Criteria & Weighting Factors

Impact/Technical Approach; 7 Criteria, 400 points

- **Criterion A: (80 points)**
  - Relevance to site planning data (IPABS). Higher score for higher priority needs.
- **Criterion B: (50 points)**
  - How much improvement the proposal offers over site baseline(s).
- **Criterion C: (70 points)**
  - Reduction of waste generation & impact on long-term stewardship of the site
- **Criterion D: (100 points)**
  - Overall scientific/ technical merit
- **Criterion E: (40 points)**
  - How well the proposal integrates multiple site applications, uses industrial partners, & accelerates EM efforts across DOE.
- **Criterion F: (20 points)**
  - The experience of the end user project management team by providing an entire team list & qualifications.
- **Criterion G: (40 points)**
  - Coordinated subsequent deployment effort(s).

ASTD Selection Criteria

Stakeholder/ Regulatory Approach (Meets [50 points] / Fails [0 points])

- **Criterion A:**
  - All permitting & regulatory requirements & potential obstacles relevant to the proposal are/ will be identified & satisfied/ resolved.
- **Criterion B**:
  - Capability to integrate across sites/states to include stakeholders, tribal governments, & regulators in resolving barriers to deployment, as necessary.

Business Management Approach (maximum point value of 300):

- **Criterion A:**
  - Written commitment from the deploying site(s) & letters of interest from other sites providing assurance of resources & confidence in the proposing sites' deployment ability.
- **Criterion B:**
  - The soundness of the proposal schedule to deploy in the FY 2002-2003 time frame & achieve cost savings or other significant benefits using the proposed technology or process.

ASTD Selection Criteria

Business Management Approach (300 max. pts., continued):

- **Criterion C:**
  - Qualifications & record of proposers in environmental technology deployment
- **Criterion D:**
  - Identification of funds to support training of personnel from the subsequent deployment site(s) during the original proposal
- **Criterion E:**
  - Presentation of written documentation of successes, cost avoidance, & lessons learned (esp. IPABS) within a reasonable time period after project completion

Cost Proposal (maximum point value of 300):

- **Criterion A:**
  - Detailed cost/benefit analysis comparing baseline costs vs. est. costs for project
- **Criterion B:**
  - Reasonableness of project costs & schedule evaluated against the SOW
- **Criterion C:**
  - The degree to which OST funding is leveraged by deploying sites, technology partners & other entities

New DDFA ASTD Projects in FY2002

Site	Project Title
INEEL	Pollution Prevention in D&D
Mound	Preparation of Problem Process Systems for D&D at the Miamisburg & Columbus Environmental Management Projects
Rocky Flats	Implementation of Improved D&D Instrumentation
Hanford	Technology to Enable Monolithic Disposal of Hanford Hot Cells

INEEL

Pollution Prevention in D&D

SITE NEEDS ADDRESSED:

ID-7.2.08-Robotics for D&D

ID-7.1.03-Treatment of Waste (sludge) to Convert it into Compliant Forms

ID-7.1.11-Air Pollution/Contamination Control to Fix Airborne Contaminants to Surfaces

ID-7.1.12-Concrete Demolition Technologies that Reduce Wear & Tear on Equipment & Minimize Dust Generation

TECHNICAL REQUIREMENTS:

Remote Characterization

Leach Resistant Sludge Treatment

Dust Suppression/ Contamination Control in Ductwork

Concrete Demolition with Reduced Noise and Dust Pollution

TECHNOLOGIES TO BE DEPLOYED:

Gamma Locator/ Isotope Identification Device (GLD/ IID)

LEADX

Passive Aerosol Generator (PAG)

SureStrike HammerHead

NETL

Hanford

Technology to Enable Monolithic Disposal of Hanford Hot Cells

SITE NEEDS ADDRESSED:

RL-DD05-Characterization of Buildings 324 and 327

RL-DD06-Decontamination of Buildings 324 and 327

RL-DD078-Improved Vacuum Recovery Systems for Buildings 324 and 327

RL-DD080-Improved Solid Waste Packaging

Also, RL-MW013 and RL-MW04

TECHNICAL REQUIREMENTS:

Various characterization technologies deployable through small ports in hot cells

Decontamination technologies deployable through small ports in hot cells

Stabilization technologies/ fixatives deployable through small ports in hot cells

TECHNOLOGIES TO BE DEPLOYED:

Small-diameter CARTOGAM™ gamma camera

Modified ISOCS

NDA instrument pod: fission chamber, CdTe detector, RO7 ion chamber

Passive Copper Foil/Neutron Activation system

Vacuum Blast or similar technology

Foams/Gels like those used by Societe des Techniques en Milieu Ionisant

Mound

Preparation of Problem Process Systems for D&D at MEMP and CEMP

SITE NEEDS ADDRESSED:

OH-MB-220-Tank Sludge Removal/Solidification

OH-MB-215-Control of Loose Surface Contamination

TECHNICAL REQUIREMENTS:

Stabilization of contamination on complex interior surfaces of process equipment

Capture and stabilization of airborne contamination

TECHNOLOGIES TO BE DEPLOYED:

Urethane Foam Void Filling (Foaming)

Passive Aerosol Generation (PAG) (Fogging)

NETL

Rocky Flats

Implementation of Improved D&D Instrumentation

SITE NEEDS ADDRESSED:

RF-DD-01-Improved Decommissioning Characterization for Distinguishing Between Transuranic and Low Levels of Contamination

RF-DD-04-Improved Measurement Techniques for Free Release of Property and Salvageable Equipment Contaminated with Radionuclides

RF-DD-15-Real-Time Beryllium Surface Characterization

RF-DD-16-Real-Time Beryllium Air Monitoring

TECHNICAL REQUIREMENTS:

Remote Radiological Sampling

Beryllium Swipe & Real Time Air and Filters

External Measurements for SC0 Characterization

Remote SNM Measurement

TECHNOLOGIES TO BE DEPLOYED:

Containment and portable alpha spectroscopy system

Real-time Beryllium Air Monitor, Real-time Beryllium (swipe) Monitor & LANL Be detection technique

Alpha Detector for Pipes & Ludlum Model 195 alpha detector

NaI scintillator system

Bicron/NE Model DPGA(B) alpha/beta scintillation probe

Xenon Spectrometer

Pressurized xenon proportional counters

NETL

Conclusion

The ASTD Program continues to be an effective tool of the Office of Environmental Management by:

- Providing funds for innovative technologies to overcome obstacles and hasten closure at sites like Rocky Flats and Mound

- Promoting multi-site deployments, such as at Mound and Columbus, of new technologies & processes that could accelerate cleanup throughout DOE

ASTD's shorten cleanup schedules by accelerating implementation of previously demonstrated technologies/ processes in EM cleanup activities